C. and the extrusion rate to 0.3 g/min per nozzle, a porous sheet having a basis weight of 17.9 g/m^2 and a thickness of 0.078 mm was produced. The polymer packing of the sheet was 53.3% and the number of polymer sections having a sectional area of 0.001 mm^2 or less was 28 per millimeter. No fluff formation occurred during the pilling test.

The observation under scanning electron microscope showed that the surfaces of the sheet were substantially in the network structure (a) and partly the network structure (b).

Comparative Example 1

In the same manner as in Example 1 except for changing the collecting distance to 15 cm, a porous sheet having a basis weight of 58.8 g/m^2 and a thickness of 0.156 mm was produced. The polymer packing of the sheet was 28.9% and the number of polymer sections having a sectional area of 0.001 mm^2 or less was 110 per millimeter. A lot of fluff was formed during the pilling test. The observation under scanning electron microscope showed that the surfaces of the sheet were in a structure typical for the known non-woven fabrics, i.e., a structure formed by fibers which were merely held together by adhesion at their intersections without being melt-bonded to form integral structure.

The properties of the sheets obtained in the above examples and comparative example are shown in Table 1.

Reference Example 1

A thermoplastic polyurethane was extruded into a film having a basis weight of 20.0 g/m^2 and a thickness of 34 μm. The air permeability of the film lower than 0.1 cc/(cm^2·s).

Reference Example 2

A polypropylene porous film (manufactured by 3M Company) having a basis weight of 21.8 g/m^2 and a thickness of 34 μm was tested. The polymer packing was 70% and the air permeability was lower than 0.1 cc/(cm^2·s).

TABLE 1

	Basis weight	Thickness	Breaking strength g/5 cm		Elongation %	
	g/m^2	mm	MD*1	CD*2	MD*1	CD*2
Examples						
1	64.2	0.148	1840	1000	820	540
2	62.9	0.135	2000	1120	1020	660
3	70.2	0.173	2100	1820	830	815
4	62.0	0.137	1840	1090	710	600
5	100.1	0.308	4200	3100	85	170
6	17.9	0.078	1300	680	5	34
Comparative Example						
1	58.8	0.156	1280	800	740	650

*1Machine Direction.
*2Cross Direction.

TABLE 1-continued

	Air permeability cc/(cm^2 · s)	Polymer packing %	Fluff formation	Number of polymer sections having a sectional area of 0.001 mm^2 or less per mm	Soft texture
Examples					
1	28.9	76.0	None	5	Good
2	12.3	70.1	None	35	Good
3	1.4	81.6	None	3	Good
4	18.6	47.1	None	58	Good
5	16.4	69.3	None	10	Good
6	88.1	53.3	None	28	Good
Comparative Example					
1	36.0	28.9	Occurred	110	Good

As seen from the results, the porous sheets of the present invention have a moderate amount of empty space and show a good soft texture unachievable in known porous films. Additionally, the porous sheets of the present invention is excellent in the air permeability and abrasion resistance.

As described above, according to the present invention, porous sheets which are highly resistant to fluff formation by rubbing and good in soft texture and have a moderate air permeability are easily produced. For example, a first-aid sticking plaster having a substrate made of the porous sheet of the present invention is used comfortably without causing oppressive damp feeling and fluff formation.

What is claimed is:

1. A porous sheet comprising a thermoplastic polymer, a cross section of the porous sheet having a polymer packing of 30 to 90% and containing 2 to 100 polymer sections having a sectional area of 0.001 mm^2 or less per millimeter along the surface of the porous sheet, and at least one surface of the porous sheet being in the following net-work structures (a) and/or (b):

(a) net-work structure formed by fiber bodies which are integrally bonded to each other at intersections by fusion of polymer constituting the fiber bodies;

(b) net-work structure formed by fiber protrusions.

2. The porous sheet according to claim 1, having an air permeability of 0.3 to 100 cc/(cm^2·s).

3. The porous sheet according to claim 1, wherein the thermoplastic polymer is a thermoplastic elastomer.

4. A substrate for poultices, which is made of the porous sheet as defined in claim 1.

5. A substrate for first-aid sticking plasters, which is made of the porous sheet as defined in claim 1.

* * * * *